SDCC (Small Device C Compiler)

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The subject of this Summer Special article is a valuable tip, rather than a circuit. For some time now, a free C compiler for microprocessors has been available via the Internet. This compiler, which is called SDCC, can be found at the Sourceforge site (http://www.sourceforge.net). It runs under Linux and Windows (in a DOS window).

There are distinct advantages to programming in C. For example, it is possible to reuse frequently used functions by packaging them in ‘routines’, which can be easily incorporated into new software projects. Furthermore, C has come to be a standard language that is intensively used in the professional world. This also means that many C functions can be found on the Internet, and you can directly use these functions in your own programs.

Another advantage of C is that you can write programs that are nearly independent of the processor used to run them. This means that, for example, you can try out a routine on the PC before using it in an embedded processor. This drastically shortens the development time, and in addition, in many cases you do not need to have a special debugger for the target processor.

SDCC can generate machine code for all processors in the MCS-51 series. There is also work in progress to provide support for the following processors: Z80, Gameboy-Z80, AVR, DS390 and PIC. In short, SDCC is an ideal complier for anyone who works with microprocessors and would like to program in C without having to dig deep into his or her purse.

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